DOCUMENT RESUME

ED 211 915 CG 015 708

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TITLE The Relationship of Sexual Knowledge to Sexual Behavior among University Students.
PUB DATE Apr 81
NOTE 18p.; Paper presented at the Annual Meeting of the Eastern Psychological Association (52nd, New York, NY, April 22-25, 1981).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Authoritarianism; *College Students; *Contraception; Correlation; Higher Education; *Knowledge Level; Self Esteem; *Sex Differences; Sex Education; Sex Role; *Sexuality; Student Attitudes; *Student Characteristics

ABSTRACT

Current data on the widespread nature of sexual activity among unmarried teenagers and young adults and the rise in unplanned pregnancy among these groups offer evidence of a lack of knowledge about reproduction and contraception. Male (N=75) and female (N=78) university students participated in a study of the effects of authoritarianism, self-esteem, and need for social approval on the relationship between sexual knowledge and behavior. Participants completed measures of self-esteem, authoritarianism, sexual behavior, sexual knowledge, social desirability, personal information, and fertility regulation. For males, the data showed a significant positive correlation between knowledge and sexual behavior, and between authoritarianism and self-esteem; significant negative relationships occurred between knowledge and authoritarianism, and between behavior and authoritarianism. For females, a positive relationship was found between knowledge and behavior. The only other significant relationship for females occurred between self-esteem and social desirability. The findings suggest a need for further research in the area of contraception behaviors. (RC)

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ED211915

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The Relationship of Sexual Knowledge to Sexual Behavior

Among University Students

Robert H. Pollack and Idalyn S. Brown

Recent reports from the Alan Guttmacher Institute (Teenage Pregnancy: The Problem That Hasn't Gone Away, 1981) indicate that over 12 million teenagers between the ages of 13 and 19 are actively engaging in sexual activities. If one adds to this number college students older than 19, this figure must increase substantially. Fisher (1978) noted reports estimating that of the teenagers alone, up to 80% fail to use effective contraception. Even teenagers who are apparently well informed failed to employ contraception.

A number of researchers have investigated the use of contraception among college students. Frighteningly, it is estimated that on the occasion of first intercourse, from 20 to 62% of college students fail to use any contraception whatever, with most estimates indicating that about 50% is an accurate overall percentage (Foreit & Foreit, 1978; Fox, 1977; and Parcel, 1975). Further, for the most recent intercourse, Fox reports that 31% failed to employ contraception, while Oswalt (1974) indicates that only 40% of sexually active students use any kind of contraception consistently. Fisher, Byrne, Edmonds, Miller, Kelley, and White (1979) report that over 50% of their sample of college women failed to use contraception even when aware that they had access to a university health service from which to obtain contraceptives.

A number of reasons have been reported for students' failure to employ contraception, including not having contraception convenient when needed, unexpected nature of the intercourse, and dislike for any type of contraceptive (Oswalt, 1974). It appears that, in addition to stated reasons for

avoiding use of contraception, other factors are related to use or non-use. Hedin-Pourghasemi (1978) found that sex-role attitudes are major determinants of contraceptive use. Both men and women whose sex-role attitudes are traditional are less likely to use effective contraception than are those whose sex-role attitudes are not so traditional. Further, women who show non-traditional self-concepts are more likely to have partners who use contraceptives effectively. Scanzoni (1976) found that the less traditional one's sex role, the better birth control intentions are predicted.

Fox (1977) reported that certain attitudes in women (e.g., a strong sense of personal worth, together with openness toward an alternative concept of the traditional female sex role) appeared to be strongly related to contraceptive use, and suggested that encouragement of these attitudes in young women may be one means of reducing the risk of unplanned pregnancy.

Fisher, et al (1979) reported that women engaged in casual sexual relationships were less likely to use effective contraceptive measures than those in more stable relationships. They also found that, even when women are aware of easily obtainable contraception, attitudinal and situational factors contribute to contraceptive use. Similarly, Parcel (1975) found that attitudes toward use of contraception is positively related to the effectiveness of contraceptive behavior. Other factors that may influence use or non-use of contraception include lack of accessibility, lack of knowledge and lack of motivation (Cole, 1975). Hansson, Jones, & Chernovetz (1979) reported that knowledge of birth control methods is associated with a more sensible evaluation of personal responsibility in sexual relationships. Females with little knowledge were, however, less willing to openly discuss contraception or their own experience, indicating that those least able to protect themselves might also be least able to seek help with an unplanned

pregnancy. Among the more knowledgeable students, there existed a tendency to place responsibility for birth control with the woman. Further, females tended to have more knowledge of birth control than did men. Vincent and Stelling (1973) pointed out the necessity for informing students about contraceptives. Rather than follow the example of the health field, i.e., dealing with medical problems after they occur, these authors suggested that in the area of fertility regulation we should attempt to prevent problems before they arise.

McCreary-Jahasz and Kavanaugh (1978) note that a prime responsibility of individuals is the making of decisions based on thoughtful consideration of personal values. They point out that the making of sexual decisions, once influenced by social and religious guidelines, has become the responsibility of the individual. If young people are to make such decisions wisely, it is imperative that they be knowledgeable of the facts relating to sexuality. McCary (1978) found that much of students' information about sex comes from peer groups and "other questionable sources" (p. 52) and views the accuracy of such information with suspicion.

Such observations raise questions as to the relationship between sexual knowledge and behavior. Is increased sexual activity related to increased knowledge of sexuality? What other factors may contribute to sexual behavior and influence the sexual decision-making process in unmarried young people? Many of the questions submitted to us in the undergraduate sexuality classes indicate an appalling lack of knowledge.

Given today's figures on the widespread nature of sexual activity among unmarried teenagers and young adults and the rise in unplanned pregnancy among these groups, a lack of knowledge about the reproductive process and contraception seems apparent. Therefore, it seems appropriate to examine

directly the relationship between sexual knowledge and both the amount and variety of sexual experience in a university population. Other studies (e.g., Mercer & Kohn, 1979) have demonstrated relationships among religiosity, political conservatism and sexual behavior, but likely components of these broad inclusive variables have not been studied as such. It was our intention to study the effects of authoritarianism, self-esteem and need for social approval on the relationship between sexual knowledge and behavior. These variables were chosen because they can be conceived of as components of the larger sociological categories of religiosity and political conservatism. The strategy employed was to see just what remains of the knowledge-behavior relationship when these psychological variables are partialed out.

Subjects

Subjects were 75 male and 78 female university students enrolled in introductory psychology courses who volunteered to participate in a "fertility regulation study." Ages ranged from 18 to 23 with a mean age of 19.1 years.

Procedure

Participants completed a number of questionnaires in group sessions. Each subject received a packet containing a number of measures, including the Self-esteem Scale (Rosenberg, 1965), the Balanced F Scale (Byrne, 1974), which is a measure of authoritarianism, the Sexual Experience Scale (Cowart & Pollack, 1979) which is a unidimensional checklist of increasingly rare sexual behaviors, the Sexual Knowledge Questionnaire (Miller & Fisk, 1969), the Social Desirability Scale (Crowne & Marlowe, 1960), and a personal information questionnaire, the Fertility Regulation Questionnaire, which was constructed specifically for this study.

Results and Discussion

Data were analyzed separately for males and females. An examination of

means revealed that males had engaged in significantly more varied sexual behaviors than had females ($t = 3.025$, $p < .01$). However, the sexes were quite similar on other variables measured. Group scores on the knowledge questionnaire averaged 60% correct response, resulting in a greater discrepancy between knowledge and behavior for males than for females.

For males, Pearson product-moment correlations showed a significant positive correlation between knowledge and sexual behavior ($r = .51$, $p < .001$), and between authoritarianism and self-esteem ($r = .30$, $p < .01$), significant negative relationships between knowledge and authoritarianism ($r = -.46$, $p < .001$) and between behavior and authoritarianism ($r = -.37$, $p < .01$) were obtained. For females, a positive relationship was found between knowledge and behavior ($r = .53$, $p < .001$). The only other significant relationship for females was between self-esteem and the social desirability rating ($r = .43$, $p < .001$). Surprisingly, no comparable relationship was found for males between these two variables.

The high positive relationship between knowledge and behavior for both males and females would appear to indicate that knowledge keeps pace with sexual activity. When we partialed each of the personality variables out of the knowledge-behavior correlation, we did not significantly reduce that correlation, nor was it augmented. The relationship between knowledge and the varieties of sexual behavior engaged in appears to be robust and relatively independent of background personality factors.

Since we were primarily interested in looking at sexually active, unmarried students, we dropped all married, sexually inactive and homosexual participants from further analysis, leaving 64 males and 55 females, with a mean age of 19.2.

Again, for males positive correlations were found between knowledge and

behavior ($r = .54$, $p < .001$) and between authoritarianism and self-esteem ($r = .27$, $p < .05$), and a negative correlation was found between knowledge and authoritarianism ($r = -.50$, $p < .001$). However, the negative relationship between authoritarianism and sexual behavior failed to reach significance in this sexually active sample.

For females, the same relationships again obtained with the relationship between knowledge and behavior increasing in magnitude ($r = .58$, $p < .001$), while the relationship between self-esteem and social desirability decreased in magnitude ($r = .38$, $p < .005$, table 1).

In both the combined and sexually active groups there was no significant difference between the sexes on social desirability, self-esteem, authoritarianism, or sex knowledge. Males scored significantly higher on sexual behavior in the combined group. However, when virgins, homosexuals, and married students were removed from analysis, this difference dropped out. It is interesting that the total correlations hardly changed at all by dropping married, sexually inactive and homosexual students from the sample.

In addition to these relationships, low but significant relationships were found between sexual knowledge and behavior and parents' income for males, but not for females. Measured sex knowledge also related positively to self-rating of both sex knowledge ($r = .51$, $p < .001$) and contraception knowledge ($r = .41$, $p < .001$) for males but not for females. Sexual behavior was related to self-rating of contraceptive knowledge for both males ($r = .33$, $p < .01$) and females ($r = .31$, $p < .03$) and to self-rating of sexual knowledge for males ($r = .35$, $p < .01$) but failed to reach significance for females.

When we looked at the sample of sexually active students, the following information was obtained. This sample was predominantly white (84%),

Protestant (65%) and had lived with both parents up to age 18 (90%). Forty-eight percent came from families with incomes of over $36,000 per year with less than 5% reporting family income of under $12,000 per year. Over 70% of females were receiving parental support, while 55% of males received such support.

No one rated his/her general sexual knowledge as "poor." Males rated their knowledge good (48%) or excellent (28%), as compared to females, good (41%) and excellent (31%).

Males obtained 37% of their sex information from books and reading materials, followed by friends (24%) and combined sources (23%), while only 20% of females obtained sex information from books, 18% from friends and 47% from combined sources. Only 8% of males and 11% of females obtained information from parents, with 3% of males receiving information from physicians and no females reporting receiving sex information from physicians. It is also interesting that only 2% of males and no females reported receiving most of their information from classes.

Forty percent of females judged their contraceptive knowledge to be excellent, and 36% good. For males 27% rated their knowledge as excellent, 44% good. No one rated knowledge as "poor."

Again, males gained most of their knowledge of contraceptives from reading materials (39%) and 25% from combined sources, with females gaining most knowledge from combined sources (47%) followed by clinics (15%) and reading materials (13%). Again, parents (males 3%, females 5%) and physicians (males 0%, females 4%) trailed behind as sources of information.

The majority reported satisfactory relationships with their partners (83% for males, 82% for females). Happily, 91% of males and 84% of females thought responsibility for providing contraception should be by joint agree-

ment of both partners, and 63% of males and 66% of females reported that their partners were fully involved in contraceptive choice.

For males, the pill was ranked first by 42%, while 38% ranked the condom first. Forty-six percent of females ranked the pill first, while 20% ranked the condom first.

Most males (72%) obtained contraceptives from the drugstore with females indicating sources as prescription (36%), university health service (28%) and drugstore (28%).

For males, 81% reported having engaged in intercourse at some time without using contraception, with 47% indicating that they still sometimes did so, while 42% said they always used contraception. Eleven percent reported never using contraception.

For females, 85% reported having had intercourse at some time without contraception, but while 64% no longer did so, 32% sometimes failed to use contraception and 4% never used it. (Table 2).

One young man reported that he did not have sex often enough to make contraception worthwhile, while one young woman reported that since she had not had a period in over a year, she did not think she could get pregnant. Then, there was the young man who reported that he and his partner used contraception -- K-Y jelly.

As noted earlier, these findings seem to indicate that knowledge and behavior in sexually active students are keeping pace with each other. However, mean scores on the sex knowledge measure indicate that students answered only about 60 percent of items correctly. Perhaps, they do not know as much as they think they do! It is interesting that enrollment in our undergraduate courses on human sexuality, which has introductory psychology as a prerequisite, is predominantly female, about 60-40. This may be an

indication that young women at least are attempting to expand their knowledge of sexuality.

This study was primarily exploratory. In the near future we plan to extend these studies to include an investigation of the effect of explicit erotic stories (e.g., stories in which couples include contraception as part of the love-making process) on students' attitude toward contraception. We also plan to look at sex guilt in relation to contraceptive use among an unmarried university population.

Recently, the opportunity has arisen to extend these studies to a Puerto Rican sample. This should provide an interesting and informative comparison.

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TABLE 1

Correlation Coefficients for Sexually Active Male and Female University Students

		Sex Knowledge	Sexual Behavior	Authoritarianism	Social Desirability	Self-esteem
MALES	Sex Knowledge	--	.58***	--	--	--
	Sexual Behavior	.54***	--	--	--	--
	Authoritarianism	-.50***	--	--	--	--
	Social Desirability	--	--	--	--	.38**
	Self-esteem	--	--	.27*	--	--

FEMALES

* p < .05

** p < .01

*** p < .001

TABLE 2

Percentages of Sexually Active Students kesponding to Selected Items on the Fertility Regulation Questionnaire

	Percentage of Responses*	
	Males	Females
1. Self-rating of general knowledge of sex		
a. poor	0%	0%
b. fair	3%	18%
c. average	20%	25%
d. good	48%	42%
e. excellent	28%	31%
2. Reported obtaining most sex information from		
a. books and reading materials	37%	20%
b. friends	24%	18%
c. parents	8%	11%
d. physicians	3%	0%
e. classes	2%	0%
f. combined sources	23%	47%
3. Self-rating of contraceptive knowledge		
a. poor	0%	0%
b. fair	2%	5%
c. average	28%	18%
d. good	44%	36%
e. excellent	27%	40%

Table 2 -- Continued

Item No.	Percentage of Responses*	
	Males	Females
4. Reported obtaining contraceptive information from		
a. books and reading materials	39%	13%
b. friends	17%	7%
c. parents	3%	5%
d. physicians	0%	4%
e. classes	14%	7%
f. clinics	2%	15%
g. combined sources	25%	47%
5. Reported satisfactory relationships with partners	83%	82%
6. Viewed responsibility for providing contraception as joint agreement of both partners	91%	84%
7. Reported their current partners were fully involved in choice of contraceptive used	63%	66%
8. Ranked the pill as first choice	42%	46%
9. Ranked condoms first	38%	20%
10. Reported source of contraception as		
a. drugstore	72%	28%
b. prescription	14%	36%
c. university health service	6%	28%

Table 2 -- Continued

Item No.	Percentage of Responses*	
	Males	Females
11. Reported having, at some time, engaged in intercourse without contraception	81%	85%
12. Reported currently using no contraception sometimes	47%	32%
13. Reported never using contraception	11%	4%
14. Reported always using contraception	42%	64%

* Percentages will not equal 100 because of rounding, the omission of some categories, and because some items had more than one category checked. Percentages are based upon the number of students responding to each item.